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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER
HAYES, J

ART UNIT	PAPER NUMBER
1772	2

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
08/917,044	Fehn
Examiner	**Group Art Unit**
Jennifer Hayes	1772

☒ Responsive to communication(s) filed on *Aug 19, 1997*

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *three* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) *1-87 and 113-138* is/are pending in the applicat

Of the above, claim(s) *60-87 and 113-138* is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-59* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☒ Claims *1-87 and 113-138* are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The drawing(s) filed on *Aug 19, 1997* is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-59, drawn to a container, classified in class 428, subclass 35.7.

II. Claims 60-87 and 113-138, drawn to a method of making a container, classified in class 264, subclass 513.

2. The inventions are distinct, each from the other because of the following reasons: Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as-claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by a materially different process of coating.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Eugene Friedman on 4/14/98 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-59. Affirmation of this election must be made by applicant in replying to this Office action. Claims 60-87 and 113-138 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Drawings

7. The drawings are objected to because they do not conform o the established regulations. See the attached PTO 948. Correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 1-59 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. A second continuous barrier layer critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). Replete throught the specification the second

continuous layer is referred to as a barrier layer and effectively provides a barrier to the contaminants of the recyled plastic layer.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1-59 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

12. The term "continuous" in claims 1, 3, 23, 24, 26, 29, 44, 45, 47 and 59 is unclear and renders the claim indefinite. The term "continuous" is not defined by the specification and it is unclear whether the it means the film is uninterrupted or is uniform. One of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For purposes of examination, continuous is interpreted to mean uninterrupted unless otherwise stated.

13. Claims 1-59 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "substantially " in claims 1, 23, and 44 is a relative term which renders the claims indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be

reasonably apprised of the scope of the invention. It is not clear whether substantially includes some, few, little, or no interruptions or no non uniformities.

14. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 9 recites the limitation "~~sid~~ said other polyolefin" in line 1. There is insufficient antecedent basis for this limitation in the claim. The Examiner notes however, that "another polyolefin" is recited in claim 8 an interprets the language in claim 9 to refer to "another polyolefin" recited in claim 8.

15. Claim 59 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear of what resin the second layer is devoid. The second layer appears to be a new layer and is interpreted for purposes of examination to include polyethylene.

Claim Rejections - 35 USC § 102

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

17. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Avery (US 4,982,872).

Avery teaches a sheath encapsulated container for food and beverages having a polyethylene polymer outer layer (1) and a continuous polypropylene layer (3) located toward the interior of the container from the first layer. See fig. 8; col. 8, lines 27-30; and col. 9, lines 3-7).

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19. Claims 2- 3 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Avery. Avery is applied as in paragraph 14 above. Avery fails to specifically teach a first polyethylene layer which includes post consumer recycled plastic. However, Avery discusses the problem of using recycled plastics as an interior content contacting layer. (Col. 2, lines 1-7). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a recycled polyethylene layer as a first exterior non-content contacting layer in combination with a continuous polypropylene content contacting interior layer.

Avery does teach an embodiment where the encapsulation layer 91) is a multi layer structure comprising an outer PE or PP layer , a intermediate EVOH barrier layer and another outer PE or PP carrier layer. It would have been obvious to one of ordinary skill in the art to substitute a post consumer recycled polyethylene layer for the polyethylene layer and to use polypropylene as the other outer carrier layer to achieve the desired barrier properties as taught by

Avery. It would have also been obvious to one of ordinary skill in the art to make the polypropylene layer to at least 1% by weight of the container.

20. Claim 4, 6-15, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Avery as applied to claims 1-3 above, and further in view of Moore et al (US 5,712,009). Avery fails to teach a film located to the interior of all layers which have at least or greater than 48 ppb/.020 of a contaminant. Both Avery and Moore et al suggests the use of post consumer polyethylene resin in making plastic containers for food and/or beverages. (Col. 1, lines 35-43). Moore et al disclose that said resin contains contaminants. (Col. 1, lines 38-40). It would have been obvious to one of ordinary skill in the art to use a post consumer recycled resin as an outer layer in a plastic container for foods or beverages having high contaminants where another layer serving as a barrier is between the post consumer recycled material and the contents as taught by Avery and as presently claimed.

Further the formation of domains within a polypropylene- polyolefin, particular polypropylene- ethylene blend is well known to those of ordinary skill in the art and well within the purview of the skilled artisan. Thus it would have been obvious to one of ordinary skill in the art to use a blend of polypropylene with another polyolefin dispersed in domains.

Avery also fails to teach a specific weight percent of the container post consumer recycled plastic. Moore et al disclose post consumer recycled layers of 10 and 70% of the wall of the container and 10% of the innermost and outermost polyethylene layers. (Fig.2). Moore et al also disclose the densities of the various materials which make up the different layers. See Table 1 and

Col. 3, lines 47- col. 4, lines 1-9). It would have been obvious to one of ordinary skill in the art to substitute a continuous polypropylene interior film for the polyethylene taught by Moore et al and to use general mathematical principals to determine suitable weight percents for post consumer recycled layers and the continuous polypropylene film to achieve the desired barrier properties, appearance, and processability in forming a container out of recycled plastic while keeping cost low. Moore et al also suggests that post consumer resin be used because of the large quantities of high density polyethylene post consumer resin available. (Col. 1, line s 34-39). It therefore would have been obvious to one of ordinary skill in the art to use a post consumer recycled resin which includes a majority of polyethylene.

Avery does suggest mixed or commingled polymers (col. 8, lines 27-30) and polypropylene blends are well known to those of ordinary skill in the art. It would have been obvious to one of ordinary skill in the art to use a polypropylene blend with another polyolefin such as polyethylene to achieve the desired structural characteristics of the container.

Applicant's process limitations recited in claims 10-12 do not impart patentability to the claimed article. Additionally, thermoforming, blow molding, and injection molding are well known processes to those of ordinary skill in the art and it would have been obvious to one of ordinary skill in the art to employ conventional blow molding, injection molding or thermoforming techniques to make a container for beverages of food having the structure taught by Avery and/or Moore et al as previously discussed.

Further, Avery discusses the importance of the thickness of the barrier layer for barrier requisite food products, (col. 9, lines 32-50), and the importance that the barrier layer be sufficient so that the structure containing recycled plastics is nowhere exposed to the food or other product to be packaged. (Col. 10, lines 30-32). Thus, it would have been obvious to one of ordinary skill in the art to make a container having a post consumer recycled polyethylene exterior layer at least 15 % by weight of the container having an interior polypropylene continuous film layer of sufficient thickness to be capable of preventing migration of contaminants into the contents of the container without undue experimentation. Additionally, it is the structural differences between the prior art and the claimed invention which determine patentability. It has not been shown that the prior art structure taught by it has not been shown that the prior art structure taught by the Avery is not capable of performing the claimed function.

21. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Avery as applied to claims 1-3 above, and further in view of Pearson et al (US 5,534,351). Pearson et al teach a laminar structure comprising an ethylene vinyl alcohol copolymer in an amount of about 10-40 % by weight dispersed within not less than 60% by weight of an olefin polymer which include homopolymers and copolymers of ethylene and propylene. (Col.2, lines 31-49 and col. 3, lines 12-34). Pearson et al teach that many multi layer products contain scrap layers made from EVOH copolymers and olefin polymers with poor barrier properties. (Col. 1, lines 29-34). It would have been obvious to one of ordinary skill in the art to substitute a continuous film of the

polypropylene blend taught by Pearson et al for the continuous polypropylene film taught by Avery et al to enhance its barrier properties as taught by Pearson et al.

22. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Avery and Moore et al as applied to claims 1-4 and 6 above, and further in view of Strum et al (US 4,824,618). Strum et al generally teach structures for multilayered plastic bottles for beverages having a structural layer of PP or PE as the innermost, or outermost or both layers, an intermediate barrier layer, adhesive layers and at least one layer of reground material to reduce waste and costs. (Col. 1, lines 22-46). It would have therefore been obvious to one of ordinary skill in the art to use a reground layer as an outer layer to reduce wastes and costs during manufacture.

23. Claims 23-24, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cushing et al (US 5,196,469). Cushing et al teach a multilayered structure for forming recyclable plastic bottles by applying a homogeneous ethylene vinyl alcohol film coating to an olefin polymer substrate including polyethylene, polypropylene and chlorinated fluorinated ethylene polymers. (Col. 4, lines 20-26). Polypropylene/adhesive/EVOH/adhesive/polypropylene is specifically taught at col. 4, lines 63-65). Cushing et al also teach that the container may be blow molded. Col. 4, line 64. Cushing et al fail to specifically teach a post consumer recycled polyethylene exterior layer. However, post consumer plastics are known to reduce costs of manufacturing and given the express teaching that polyethylene and polypropylene are equivalent substrates for the structure of the invention taught by Cushing et al, it would have been obvious to one of ordinary

skill in the art at the time of the invention to substitute a post consumer recycled polyethylene layer for the first exterior polypropylene layer taught by Cushing et al to reduce material costs.

24. Claims 23, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cushing et al as applied above, and further in view of Avery et al. Cushing et al fail to teach a post consumer outer polyethylene layer. Avery et al discloses the problem of using a recycled layer as an inner content contacting layer and resolves the problem by providing a barrier layer between he content contents and the recycled layer. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a recycled polyethylene layer as a first exterior non-content contacting layer in combination with a continuous EVOH content contacting interior barrier layer.

25. Claim 25 rejected under 35 U.S.C. 103(a) as being unpatentable over Cushing et al and Avery as applied to claims 23 and 24 above, and further in view of Moore et al. Cushing et al and Avery combined fail to teach the film being located toward the interior from all layers which contain at least 48 ppb/.020 in contaminant. Both Avery and Moore et al suggests the use of post consumer polyethylene resin in making plastic containers for food and/or beverages. (Col. 1, lines 35-43). Moore et al disclose that said resin contains contaminants. (Col. 1, lines 38-40). It would have been obvious to one of ordinary skill in the art to use a post consumer recycled resin as an outer layer in a plastic container for foods or beverages having high contaminants where another layer serving as a barrier is between the post consumer recycled material and the contents as taught by Avery in conjunction with and EVOH barrier layer as presently claimed.

26. Claims 27-33, 35-39, and 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cushing et al and Avery et al as applied to claims 23, 24, and 26 above, and further in view of Moore et al (US 5,712,009). Cushing et al and Avery combined fail to teach a specific amount by weight of the container of the post consumer recycled plastic or the second continuous polypropylene film or the percent by weight of the container of the EVOH layer.

Moore et al disclose post consumer recycled layers of 10 and 70% of the wall of the container and 10% of the innermost and outermost polyethylene layers. (Fig.2). Moore et al also disclose the densities of the various materials which make up the different layers. See Table 1 and Col. 3, lines 47- col. 4, lines 1-9). It would have been obvious to one of ordinary skill in the art to substitute polypropylene for the polyethylene taught by Moore et al and to use general mathematical principals to determine suitable weight percents for post consumer recycled layers to achieve the desired barrier properties, appearance, and processability in forming a container out of recycled plastic while keeping cost low. It would have also been obvious to one of ordinary skill in the art to adjust the percent by weight of the EVOH layer of the container to achieve the desired barrier properties while maintaining the desired appearance. Moore et al also suggests that post consumer resin be used because of the large quantities of high density polyethylene post consumer resin available. (Col. 1, line s 34-39). It therefore would have been obvious to one of ordinary skill in the art to use a post consumer recycled resin which includes a majority of polyethylene. Moore et al also recognizes that post consumer plastic has contaminants and it

would have been obvious to one of ordinary skill in the art to use a post consumer plastic having greater than 48 ppb/.020 in of contaminant, without undue experimentation.

Cushing et al teach that the container can be blow molded (Col. 4, line 64) but fail to teach that the container may be injection molded or thermoformed. However, these process limitations do not impart patentability to the article claimed. Additionally, thermoforming and injection molding are common techniques well known to those of ordinary skill in the art and thus it would have been obvious to one of ordinary skill in the art to use any of these conventional techniques in making a multilayered container as taught by Cushing et al.

Further, Avery discusses the importance of the thickness of the barrier layer for barrier requisite food products, (col. 9, lines 32-50), and the importance that the barrier layer be sufficient so that the structure containing recycled plastics is nowhere exposed to the food or other product to be packaged. (Col. 10, lines 30-32). Thus, it would have been obvious to one of ordinary skill in the art to make a container having a post consumer recycled polyethylene exterior layer at least 15 % by weight of the container having an interior continuous EVOH film layer of sufficient thickness to be capable of preventing migration of contaminants into the contents of the container without undue experimentation. Additionally, it is the structural differences between the prior art and the claimed invention which determine patentability. It has not been shown that the prior art structure taught by the Cushing et al is not capable of performing the claimed function.

27. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cushing et al , Avery , and Moore et al as applied to claims 23-24, 26-27 and 33 above, and further in view of Strum et al (US 4,824,618). The combination of references fails to teach a sixth layer comprising reground trim scrap located on the exterior from the fourth layer. Strum et al teaches generally structure multilayered plastic bottles for beverages having a structural layer of PP or PE as the innermost, or outermost or both layers, an intermediate barrier layer, adhesive layers and at least one layer of reground material to reduce waste and costs. (Col. 1, lines 22-46). It would have therefore been obvious to one of ordinary skill in the art to use a reground layer as an outer layer to reduce wastes and costs during manufacture.

28. Claims 44-54, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mehta et al (US 4,880,675) in view of Moore et al. Moore et al is applied as in paragraph 23 above. Mehta et al teach a plastic container comprising a fluorinated inner layer and a polypropylene outer layer which is formed by conventional blowmolding, thermoforming or injection processes. (Col. 2, lines 6-17). The fluorinated PE surface forms the interior surface of the container. (Col. 2, lines 18-19). Mehta et al fail to teach an outer layer of post consumer recycled polyethylene. However, Moore et al suggests the use of post consumer recycled polyethylene in the production of plastic beverage and food containers due to the large quantities available to reduce wastes and cost. It would have been obvious to one of ordinary skill in the art to substitute a post consumer recycled polyethylene for the polypropylene taught by Mehta in combination with the fluorinated polyethylene to achieve a container having good aroma and

flavor barrier properties. It would also have been obvious to include a non post consumer polyethylene layer between the post consumer recycled resin layer and the fluorinated polyethylene layer to achieve good barrier properties and structural rigidity while maintaining low costs due to reduced material costs associated with the use of the post consumer plastic as an outer layer.

Mehta is silent as to the continuity of the fluorinated polyethylene film, however it is thought to be inherently continuous or uninterrupted to achieve the desired flavor and aroma barrier properties.

Mehta et al also fail to specifically teach the weight percent of the container of the post consumer recycled plastic. Moore et al disclose post consumer recycled layers of 10 and 70% of the wall of the container and 10% of the innermost and outermost polyethylene layers. (Fig.2). Moore et al also disclose the densities of the various materials which make up the different layers. See Table 1 and Col. 3, lines 47- col. 4, lines 1-9). It would have been obvious to one of ordinary skill in the art to substitute post consumer recycled polyethylene as suggested by Moore et al for the polypropylene taught by Mehta and to use general mathematical principals to determine suitable weight percents for post consumer recycled layers to achieve the desired barrier properties, appearance, and processability in forming a container out of recycled plastic while keeping cost low. Moore et al also suggests that post consumer resin be used because of the large quantities of high density polyethylene post consumer resin available. (Col. 1, line s 34-39). It therefore would have been obvious to one of ordinary skill in the art to use a post consumer

recycled resin which includes a majority of polyethylene. Moore et al also recognizes that post consumer plastic has contaminants and it would have been obvious to one of ordinary skill in the art to use a post consumer plastic having greater than 48 ppb/.020 in of contaminant, without undue experimentation.

29. Claims 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mehta and Moore et al as applied to claims 44-45, 47 and 49 above, and further in view of Avery. The combination of Mehta and Moore et al fail to teach a container wherein the film is of sufficient thickness to prevent the passage of post consumer recycled plastic contaminants into the contents of the container. Avery discusses the importance of the thickness of the barrier layer for barrier requisite food products, (col. 9, lines 32-50), and the importance that the barrier layer be sufficient so that the structure containing recycled plastics is nowhere exposed to the food or other product to be packaged. (Col. 10, lines 30-32). Thus, it would have been obvious to one of ordinary skill in the art to make a container having a post consumer recycled polyethylene exterior layer at least 15 % by weight of the container having an interior continuous fluorinated polyethylene film layer of sufficient thickness to be capable of preventing migration of contaminants into the contents of the container without undue experimentation. Additionally, it is the structural differences between the prior art and the claimed invention which determine patentability. It has not been shown that the prior art structure taught by Mehta is not capable of performing the claimed function.

30. Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mehta and Moore et al as applied to claims 44-45, 47, and 49 above, and further in view of Strum et al. Strum et al is applied as in paragraph 19 above. It would have been obvious to one of ordinary skill in the art to use a reground layer as an outer layer to reduce wastes and costs during manufacture.

Conclusion

31. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ofstein USSN 5, 064,724; 5049,449; 4,999,254; and 4,894,291 teach various laminate structures having regrind layers.

32. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer M. Hayes whose telephone number is (703) 308-9545.

Ellis P. Robinson

ELLIS P. ROBINSON
SUPERVISORY PATENT EXAMINER
1772

jmh

April 24, 1998